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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,710	10/10/2006	Gerald A. Daniel	9052-235	1603
20792 7590 12/31/2008 MYERS BIGEL, SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627				
EXAMINER				
BOMAR, THOMAS S				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/563,710

Applicant(s)

DANIEL ET AL.

Examiner

Shane Bomar

Art Unit

3676

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because no drawings were submitted in the Applicant's response, although the Applicant stated that the corrections were made. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 13, 16, and 17 are objected to because of the following informalities:
- a. In claim 13, the recitation of "a ready made bore" is now unclear since claim 1 now recites "a ready made through bore"; are these the same or different bores?;

- b. both claims 16 and 17 depend from a cancelled claim; it will be assumed that the claims were meant to depend from claim 9.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8-10, and 12-18 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,354,560 of Johnson.

Regarding claim 1, Johnson discloses a method for drilling a bore EH through a target including a ready made through bore PH, the method comprising: advancing a drill bit EB into the target along the ready made through bore in a direction of advancement from a region where a drill device arranged to drive the drill bit is located to a further region, such as at the surface; injecting a directing gas through at least one aperture 181a in the drill bit so that gas ejected therefrom is directed in the direction of advancement (Figs. 2b, 4b, and 8); and as the bore is drilled, directing waste material along the ready made through bore in the direction of advancement for at least a short period of time via the gas (e.g., the gas leaves the bit in a downward direction (direction of advance), entrains waste while still traveling downward, and is then directed back upward due to hitting the bottom of the hole and/or due to the vacuum action), wherein the waste material will eventually be directed in a direction opposite to the direction of advancement (but not before it inherently travels in the direction of advance first).

Regarding claim 2, at least one cutting element C of the drill bit defines an internal diameter of the bore developed in the target as the bit advances (Fig. 2b).

Regarding claim 3, the method as claimed in claim 2 further comprising: providing a ready made bore PH having an existing diameter less than the internal diameter in the target; and directing at least some waste material along the ready made bore during the step of advancing the drill bit because at least some of the material will inherently fall into the bore PH due to gravity.

Regarding claim 4, based on the discussion in claim 1 above, it is clear that substantially all of the waste material will be first directed in the direction of advancement, and then shortly thereafter be directed in the opposite direction.

Regarding claim 5, gas in the form of air is used so this is dry drilling (col. 5, lines 14-17).

Regarding claim 6, as is notoriously known in the art, the formation being drilled will not be homogenous at all times, thus at least two different materials will be drilled through simultaneously (e.g., sandstone and another metaphoric rock may be encountered simultaneously).

Regarding claim 8, the dimensions of the drill tip appear to be inherently selected for providing consistent particle size, having a largest cross-section below a predetermined threshold limit, of ejected waste material (Figs. 2b and 4b).

Regarding claim 9, Johnson discloses a drill bit for drilling a bore through a target via a drilling process, comprising: at least one cutting surface arranged to cut a bore having an internal diameter through the target as the drill bit advances into the target; and at least one aperture 181a in the drill bit for permitting a directing gas to be injected in a direction of advancement of the

drill bit to thereby direct waste material, formed as the bore is drilled, in the direction of advancement for at least a short period of time (see discussion in claim 1 above); wherein the drill bit further comprises a drill tip C including the cutting surface and a shaft portion 17 for connecting the drill tip to a drill device and the at least one aperture 181a is formed to extend radially outwardly in the shaft portion (Figs. 4b and 8).

Regarding claim 10, the cutting surface cut a bore EH having a diameter wider than the existing bore PH (Fig. 2b).

Regarding claims 12-14, the cutters C have progressively larger cutting portions, wherein the smallest cutting portion is disposed at a forward region and acts as a pilot and chip breaker since it encounters material in the ready made bore PH first (Figs. 1b, 2b, and 4b).

Regarding claims 15-17, there is at least one air passage 181 in a cylindrical shell body of the shaft 17 extending longitudinally through the drill bit for providing a route for gas to flow along from a rear portion of the drill bit to the at least one aperture, and at least 17c connects the shaft and tip together (Figs. 4b and 8).

Regarding claim 18, Johnson discloses a drill for use with a drill bit arranged for drilling a bore EH through a target, comprising: a drill bit comprising: at least one cutting surface C arranged to cut a bore having an internal diameter of EH through the target as the drill bit advances into the target; and at least one aperture 181a in the drill bit for permitting a directing gas to be injected in a direction of advancement of the drill bit to thereby direct waste material, formed as the bore is drilled, in the direction of advancement for at least a short period of time (see discussion in claim 1 above); wherein the drill bit further comprises a drill tip including the cutting surface and a shaft portion 17 for connecting the drill tip to a drill device and the at least

one aperture is formed extending radially outwardly in the shaft portion; a rotor shaft 24 arranged to rotate when driven; a motor 26 arranged to drive the shaft; connection means P for connecting the drill bit to the rotor shaft; a gas inlet 10 arranged to receive pressurized gas from a pressurized gas source, the source being inherent; and gas directing means A/159 arranged to inject gas from the inlet to the drill bit thereby providing a directing gas flow in a direction of advancement as the drill bit drills the bore (Figs. 1, 2b, 4b, and 8).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of US 5,580,188 of Nowak.

Johnson teaches a method that comprises drilling through a ready made bore PH. However, it is not specifically taught that the target comprises a wall composed of a first material and a pipe composed of a different material extending through the wall, the internal bore of the pipe defining a ready made bore along which the drill bit is advanced.

Nowak teaches a method for drilling a bore similar to that of Johnson. It is further taught that as the bore is drilled, an existing pipe 10 and the surrounding formation are simultaneously bored (Figs. 1 and 2). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to try the method of Johnson in the existing pipe of Nowak, as a person

with ordinary skill has good reason to pursue the known options within his or her technical grasp.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 9, and 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is (571)272-7026. The examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer H. Gay can be reached on 571-272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shane Bomar/
Primary Examiner, Art Unit 3676